



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,862	01/21/2005	Paulus Cornelis Neervoort	NL 020772	1298
24737 7590 03/16/2010 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
HOEL, MATTHEW D				
ART UNIT		PAPER NUMBER		
3714				
MAIL DATE		DELIVERY MODE		
03/16/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,862

Applicant(s)

NEERVOORT ET AL.

Examiner

Matthew D. Hoel

Art Unit

3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1 to 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagan, et al. (U.S. patent 5,618,045 A) in view of Sharma (U.S. patent 6,287,200 B1).

1. As to Claim 1: Kagan discloses all of the limitations of Claim 1, but lacks specificity as to the competition-related information depending on the physical locations of the modular units relative to each other. Kagan teaches a method of performing a competition between teams by means of at least two sets of modular units (Abst., Fig. 9, the method comprising acts of connecting a first set of modular units to a second set of modular units, wherein each set comprises at least one modular unit (player can play on

a team, 5:1-14; as in basketball game of Fig. 2, 4:32-42); determining which first modular unit in the first set is connected to which second modular unit or units in the first set (player can select which team to join, such as a first team, 4:23-32, 5:1-7,34-41); determining which third modular unit in the second set is connected to which fourth modular unit or units in the second set (a second player can join the same or an opposite team, 4:23-32, 5:1-7,34-41); determining a set of information items for at least one modular unit, wherein each information item individually relates to a specific modular unit in said sets (unique identifier for each device, 5:67-6:6); and wherein said set of information items represents competition-related information (ID used to join game, 5:67-6:7; and subsequently join a team, 5:1-13), and wherein said set of information items comprises connection-related information indicating locations of said modular units relative to one another as interconnected in a common game space (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51. The player's moves in virtual space are presented to the other modular units in the ad-hoc wireless network (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51); the examiner believes it would be obvious to correlate this to player's actual positions in physical space for the following reasons. Sharma, however, discloses the competition-related information depending on the physical locations of the modular units relative to each other (plural wireless gaming devices within radio range of each other, Abst., Fig. 1, 2:53-3:8). The information is

competition-related as the users are able to play on teams in virtual volleyball games against each other (3:30-38). Each mobile user has the coordinates or relative location of each other user (Fig. 2, 3:9-24).

2. As newly claimed, Sharma discloses competition-related information pertaining to the relative positions of the players while the mobile units are connected to each other. 2:24-44 describes the mobile devices detecting other devices within radio range. 3:10-24 describes each device displaying the relative positions of the other devices within range. Fig. 3 and 3:31-38 teach the players' relative locations with competition-related information pertaining to which player is on which team and which side of the virtual volleyball net each player is on. Thus, Sharma teaches competition-related information based on the relative positions of currently *connected* (3:24-44) players' mobile devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the competition-related location information of Sharma to the gaming system of Kagan. Kagan and Sharma both are virtual games that involve ad-hoc groups of wirelessly connected mobile devices (Kagan, Abst., 1:50-63; Sharma, Abst., ad-hoc in sense that to start a game, a modular unit must detect other modular units within radio range, 2:24-44). Kagan is intended to have the devices communicate using short-range radio communication (3:50-42); Sharma uses short-range radio communication in the form of Bluetooth (2:18-20). The short range of 1 to 10 meters (2:20-22) necessitates the direct correspondence of actual to virtual position as this will be about the size of an actual volleyball court. Kagan simulates a team sports game in which players are able to hand off the ball to one another (basketball, 4:32-42). Sharma

similarly simulates an analogous team sport in which players are able to set or pass the ball to one another (volleyball, 3:30-38). The advantage of Sharma's mode of operation as applied to the game of Kagan is that Sharma's spatial arrangement of characters in virtual space corresponding to the player's positions in real space would serve to make the game more realistic, as the players' positions would make it readily apparent to each other which other players would be able to receive a set or passed ball (Fig. 5, 3:45-61; players' actual motions same as their virtual motions, 3:62-65). This would serve to make the game more spatially realistic and easier to learn.

3. As to Claim 5: Kagan teaches a computer system for performing a competition between teams by means of at least two sets of modular units (Abst., Fig. 1, 3:41-53), said computer system comprising means for connecting a first set of modular units to a second set of modular units (wireless LANs in Para. 63 and local handshake protocols for direct connections between devices in Para. 59 of applicants' specification equivalent structure to wireless ad-hoc communications of Kagan, Figs. 1 & 3, 3:41-53, 4:23-32, 5:32-56), wherein each set comprises at least one modular unit (player can play on a team, 5:1-14; as in basketball game of Fig. 2, 4:32-42); means for determining which modular unit is connected to which second modular unit or units in the first and the second set (player can select which team to join, such as a first team, 4:23-32, 5:1-7,34-41); means for determining a set of information items, wherein each information item individually relates to a specific modular unit in said sets (a second player can join the same or an opposite team, 4:23-32, 5:1-7,34-41); and wherein said set of information items represents competition-related information, and wherein said set of

information items comprises connection-related information indicating locations of said modular units relative to one another as interconnected in said sets in a common game space (ID used to join game, 5:67-6:7; and subsequently join a team, 5:1-13); means for distributing the set of information items to the corresponding modular units in said sets (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51. The examiner notes that the claim language does not require the actual positions of the players to correspond to the relative positions of their respective virtual players in virtual space); and means for presenting one of said information items (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51). As newly claimed, Sharma discloses competition-related information pertaining to the relative positions of the players while the mobile units are connected to each other. 2:24-44 describes the mobile devices detecting other devices within radio range. 3:10-24 describes each device displaying the relative positions of the other devices within range. Fig. 3 and 3:31-38 teach the players' relative locations with competition-related information pertaining to which player is on which team and which side of the virtual volleyball net each player is on. Thus, Sharma teaches competition-related information based on the relative positions of currently *connected* (3:24-44) players' mobile devices. The players' relative locations are addressed in the rejection of independent Claim 1 above discussing Sharma.

4. As to Claim 6: Kagan teaches a computer-executable code stored on a computer-readable medium (gaming devices of Kagan will inherently have memory with the game programmed into it, evidenced by U.S. patent 5,428,528 A, Figs. 2 & 3, 3:53-4:2, 4:6-24) for performing a competition between teams by means of at least two sets of modular units (player can play on a team, 5:1-14; as in basketball game of Fig. 2, 4:32-42), said code when executed by a computer, executes acts of connecting a first set of modular units to a second set of modular units, wherein each set comprises at least one modular unit (player can play on a team, 5:1-14; as in basketball game of Fig. 2, 4:32-42); determining which first modular unit in the first set is connected to which second modular unit or units in the first set (player can select which team to join, such as a first team, 4:23-32, 5:1-7,34-41); determining which third modular unit in the second set is connected to which fourth modular unit or units in the second set (a second player can join the same or an opposite team, 4:23-32, 5:1-7,34-41); determining for a set of information items at least one modular unit (unique identifier for each device, 5:67-6:6), wherein each information item individually relates to a specific modular unit in said sets; and wherein said set of information items represents competition-related information (ID used to join game, 5:67-6:7; and subsequently join a team, 5:1-13), and wherein said set of information items comprises connection-related information indicating locations of said modular units relative to one another as interconnected in a common playfield (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51. The examiner notes that the claim

language does not require the actual positions of the players to correspond to the relative positions of their respective virtual players in virtual space); distributing the set of information items to the corresponding modular units; and presenting said set of information items on the modular units (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51). As newly claimed, Sharma discloses competition-related information pertaining to the relative positions of the players while the mobile units are connected to each other. 2:24-44 describes the mobile devices detecting other devices within radio range. 3:10-24 describes each device displaying the relative positions of the other devices within range. Fig. 3 and 3:31-38 teach the players' relative locations with competition-related information pertaining to which player is on which team and which side of the virtual volleyball net each player is on. Thus, Sharma teaches competition-related information based on the relative positions of currently *connected* (3:24-44) players' mobile devices. The players' relative locations are addressed in the rejection of independent Claim 1 above discussing Sharma.

5. As to Claim 7: Kagan teaches a modular unit for performing a competition between teams by means of at least two sets of modular units (Abst., Fig. 1, 3:41-53), said modular unit comprising means for connecting a first set of modular units to a second set of modular units, wherein each set comprises at least one modular unit (player can play on a team, 5:1-14; as in basketball game of Fig. 2, 4:32-42; wireless LANs in Para. 63 and local handshake protocols for direct connections between devices in Para. 59 of applicants' specification equivalent structure to wireless ad-hoc

communications of Kagan, Figs. 1 & 3, 3:41-53, 4:23-32, 5:32-56); means for determining which modular unit is connected to which second modular unit or units in the first and the second set (player can select which team to join, such as a first team, 4:23-32, 5:1-7,34-41; a second player can join the same or an opposite team, 4:23-32, 5:1-7,34-41); means for determining a set of information items, wherein each information item individually relates to a specific modular unit in said sets (ID used to join game, 5:67-6:7; and subsequently join a team, 5:1-13); and wherein said set of information items represents competition-related information, and wherein said set of information items comprises connection-related information indicating locations of said modular units are located relative to one another as interconnected in said sets in a common game space (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51. The examiner notes that the claim language does not require the actual positions of the players to correspond to the relative positions of their respective virtual players in virtual space); means for distributing the set of information items to the corresponding modular units in said sets; and means for presenting one of said information items (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51). As newly claimed, Sharma discloses competition-related information pertaining to the relative positions of the players while the mobile units are connected to each other. 2:24-44 describes the mobile devices detecting other devices

within radio range. 3:10-24 describes each device displaying the relative positions of the other devices within range. Fig. 3 and 3:31-38 teach the players' relative locations with competition-related information pertaining to which player is on which team and which side of the virtual volleyball net each player is on. Thus, Sharma teaches competition-related information based on the relative positions of currently *connected* (3:24-44) players' mobile devices. The players' relative locations are addressed in the rejection of independent Claim 1 above discussing Sharma.

6. As to Claims 2, 8, 10, 12, 14, and 16: Kagan teaches receiving a first information item representing a property of a modular unit or each modular unit (each unit has a unique identifier, 5:67-6:6; each unit also has a team assignment, 4:23-32, 5:1-14, 34-41). Sharma sets the competition-related item based on the received first information and based on the physical location of the modular unit relative to the other units (3:9-24). The locations of the modular units relative to one another define a common game space (Sharma, 3:9-24, Fig. 5, 45-61).

7. As to Claims 3, 9, 11, 13, 15, and 17: A Kagan teaches receiving a second information item representing a first competition or a second competition (plural games as game sessions can begin and end, 5:-33-41; another player can elect to join or not to join any given game, 6:25-40; up to fifteen players can be accommodated, 6:54-59, so in the event of 10 players in a five-on-five basketball game, the game would round out five additional players for a second game, 5:1-14). Sharma sets the competition-related information based on the received second information item and the physical location of the modular unit relative to the other modular units (3:9-24). The locations of the

modular units relative to one another define a common game space (Sharma, 3:9-24, Fig. 5, 45-61).

8. As to Claim 4: Kagan teaches disconnecting a third set of modular units from the first and second set of modular units, wherein said third set comprises at least one modular unit; and connecting a fourth set of modular units to said first and second set of modular units, wherein said fourth set comprises at least one modular unit (player can select which team to join, such as a first team, 4:23-32, 5:1-7,34-41; a second player can join the same or an opposite team, 4:23-32, 5:1-7,34-41; players can join or leave a game at any time, 5:33-41). Sharma sets the competition-related information based on the received second information item and the physical location of the modular unit relative to the other modular units (3:9-24).

9. As to Claims 18 and 21: Sharma's addition of players is cumulative in that at least four players must be detected (2:24-44), spatially located (3:9-24), and assigned to teams (3:31-38) before game play can begin. Sharma discloses competition-related information pertaining to the relative positions of the players while the mobile units are connected to each other. 2:24-44 describes the mobile devices detecting other devices within radio range. 3:10-24 describes each device displaying the relative positions of the other devices within range. Fig. 3 and 3:31-38 teach the layout of players' relative locations with competition-related information pertaining to which player is on which team and which side of the virtual volleyball net each player is on. Thus, Sharma teaches a team-based allocation competition-related information based on the relative positions of currently *connected* (3:24-44) players' mobile devices.

10. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagan and Sharma in view of Lynch, et al. (U.S. patent 6,561,809 B1).

11. As to Claims 19 and 20: The combination of Kagan and Sharma discloses all of the limitations of these claims but lacks specificity as to determining the size and layout of a virtual playfield. Lynch, however, discloses these limitations (4:26-30; Fig. 5, 13:25-40, number of virtual field sectors; 13:52-54, virtual field can vary in size). It would have been obvious to one of ordinary skill in the art at the time of invention to have applied Lynch's determination of virtual field size and shape to the combination of Kagan and Sharma. Lynch is a virtual playfield game that uses the relative locations (2:34-39) of players' mobile devices (2:24-47) to play each other on opposing teams (1:60-67, 3:12-28), in the same manners as disclosed by Kagan and Sharma. The advantage of this modification would be to change the layout of the virtual playfield based on the number of players available to allow more than one type of game to be played as enough players become available.

Response to Arguments

12. Applicant's arguments filed 12-21-2009 have been fully considered but they are not persuasive. In Kagan, the player's moves in virtual space are presented to the other modular units in the ad-hoc wireless network (players moves in virtual basketball court space are broadcast to other players in ad-hoc network, 7:1-11; represented on screen 26 of each respective gaming device, Fig. 2, 4:33-51); the examiner believes it would be

obvious to correlate this to player's actual positions in physical space for the following reasons. Sharma discloses the competition-related information depending on the physical locations of the modular units relative to each other (plural wireless gaming devices within radio range of each other, Abst., Fig. 1, 2:53-3:8). The information is competition-related as the users are able to play on teams in virtual volleyball games against each other (3:30-38). Each mobile user has the coordinates or relative location of each other user (Fig. 2, 3:9-24). Kagan and Sharma both are virtual games that involve ad-hoc groups of wirelessly connected mobile devices (Kagan, Abst., 1:50-63; Sharma, Abst., ad-hoc in sense that to start a game, a modular unit must detect other modular units within radio range, 2:24-44). Kagan is intended to have the devices communicate using short-range radio communication (3:50-42); Sharma uses short-range radio communication in the form of Bluetooth (2:18-20). The short range of 1 to 10 meters (2:20-22) necessitates the direct correspondence of actual to virtual position as this will be about the size of an actual volleyball court. Kagan simulates a team sports game in which players are able to hand off the ball to one another (basketball, 4:32-42). Sharma similarly simulates an analogous team sport in which players are able to set or pass the ball to one another (volleyball, 3:30-38). Sharma's mode of operation as applied to the game of Kagan is that Sharma's spatial arrangement of characters in virtual space corresponding to the player's positions in real space would serve to make the game more realistic, as the players' positions would make it readily apparent to each other which other players would be able to receive a set or passed ball (Fig. 5, 3:45-61; players' actual motions same as their virtual motions, 3:62-65).

13. Sharma discloses competition-related information pertaining to the relative positions of the players while the mobile units are connected to each other. 2:24-44 describes the mobile devices detecting other devices within radio range. 3:10-24 describes each device displaying the relative positions of the other devices within range. Fig. 3 and 3:31-38 teach the players' relative locations with competition-related information pertaining to which player is on which team and which side of the virtual volleyball net each player is on. Thus, Sharma teaches competition-related information based on the relative positions of currently *connected* (3:24-44) players' mobile devices. The examiner respectfully disagrees with the applicants as to the claims' condition for allowance.

Allowable Subject Matter

14. The following is a statement of reasons for the indication of allowable subject matter: Putting claims 19 and 20's limitations into the independent claims to cite determining the size and layout of a virtual playfield, with the additional limitation of determining the size and layout of the virtual playfield according to the type of detected game as currently being played, would in the examiner's opinion be allowable. These limitations would need to be tied to the *cumulative* addition of modular units to determine the type of game being played and thus the size and shape of the virtual playfield. Para. 76 of the specification, 2005/0288100 A1, discusses the type of game, in this case soccer, being determined by the number of modular units connected, two teams of eleven modular units. Para. 87 talks about the relative locations of the

respective units being tied to the type of game being played. Paras. 40, 90, and 112 discuss additional modular units changing the size and shape of the playfield, allowing new types of games to be played. The independent claims need to cite how the *cumulative* nature of the number of modular units detected and connected determine the type of game being played, and thus the size and shape of the virtual playfield, and how the type of game being played, along with its playfield's shape and size, is determined by the number and relative locations of the modular units at any given time.

15. *The applicants' specification is essentially pickup ball, except played with wireless modular units.* In pickup ball, players come and go throughout the afternoon (which is the cumulative crux of the applicants' invention), and teams are formed and reformed, until at the end of the afternoon everybody has gone home, after the number of remaining players has tricked off for awhile. Even the types of games being played will change as players come and go from pickup games. More players, say will be needed for regulation basketball with five players on each team, and fewer for one-on-one basketball.

Citation of Pertinent Prior Art

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sugimoto in U.S. patent 6,626,756 B2 teaches distances pertaining to virtual playfields.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Hoel whose telephone number is (571) 272-5961. The examiner can normally be reached on Mon. to Fri., 8:00 A.M. to 4:30 P.M.

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew D. Hoel
Patent Examiner
AU 3714

Peter Vo
Supervisory Patent Examiner
Art Unit 3714

/M. D. H./
Examiner, Art Unit 3714

/Peter D. Vo/
Supervisory Patent Examiner, Art Unit 3714